

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-34. (xx)

35. (New) An apparatus for generating a plurality of facial image templates for a plurality of face classes, said apparatus comprising:

means for receiving an input facial image and a plurality of facial image templates, each facial image template of said plurality of facial image templates previously generated for each face class of said plurality of face classes;

means for determining correlation between said input facial image and said each facial image template;

means for classifying said input facial image into one of said plurality of face classes based on the determined correlation between said input facial image and said each facial image template; and

means for generating said plurality of facial image templates representing orientations of said input facial images.

36. (New) The apparatus of claim 35, wherein said means for generating said plurality of facial image templates comprises:

a storage for storing a coefficient data set pre-set for each face class;

means for generating a prediction equation based on the coefficient data set, where said

coefficient data set is read out from said storage based on a class determined by said means for classifying said input facial image into one of said plurality of face classes; and means for solving said prediction equation to generate said plurality of facial image templates.

37. (New) The apparatus of claim 35, wherein said means for generating said plurality of facial image templates comprises

means for generating said plurality of facial image templates having consecutive values on a line interconnecting said plurality of facial image templates.

38. (New) The apparatus of claim 35, wherein said means for determining correlation comprises

means for detecting a distance by calculating correlation between an input facial image and each template of said plurality of facial image templates generated initially for said each face class.

39. (New) A method for generating a plurality of facial image templates for a plurality of face classes, said method comprising:

receiving an input facial image and a plurality of facial image templates, each facial image template of said plurality of facial image templates previously generated for each face class of said plurality of face classes;

determining correlation between said input facial image and said each facial image template;

classifying said input facial image into one of said plurality of face classes based on the determined correlation between said input facial image and said each facial image template; and generating said plurality of facial image templates representing orientations of said input facial images.

40. (New) The method of claim 39, wherein said generating said plurality of facial image templates comprises:

storing in a storage a coefficient data set pre-set for each face class;
generating a prediction equation based on the coefficient data set, where said coefficient data set is read out from said storage based on a class determined by said classifying said input facial image into one of said plurality of face classes; and
solving said prediction equation to generate said plurality of facial image templates.

41. (New) The method of claim 39, wherein said generating said plurality of facial image templates comprises

generating said plurality of facial image templates having consecutive values on a line interconnecting said plurality of facial image templates.

42. (New) The method of claim 39, wherein said determining correlation comprises detecting a distance by calculating correlation between an input facial image and each template of said plurality of facial image templates generated initially for said each face class.

43. (New) An image processing method for building a database of facial orientation image templates, comprising:

generating a plurality of facial images oriented in different directions;
providing a range for each image of said plurality of facial images;
determining an orientation angle for said each image by detecting and calculating distances among predetermined features within the range;
linking the determined orientation angle to said each image; and
storing said plurality of facial images linked to orientation angles as facial orientation image templates in the database.

44. (New) The image processing method of claim 43, wherein said providing a range comprises

extracting a rectangle including both eyes and a nose.

45. (New) The image processing method of claim 44, further comprising specifying positions of both eyes and the nose.

46. (New) The image processing method of claim 45, wherein said determining an orientation angle comprises

calculating a center of gravity of an area specified by the positions of both eyes and the nose by centering the area within the rectangle.

47. (New) The image processing method of claim 43, further comprising

classifying the plurality of facial images into a plurality of face classes depending on orientation angles.

48. (New) The image processing method of claim 47, wherein said classifying the plurality of facial images comprises

classifying the plurality of facial images into three faces classes, oriented toward front, right, and left.

49. (New) The image processing method of claim 47, further comprising:
calculating a representative facial image for each class of said plurality of face classes by calculating a mean value of facial images in each class.

50. (New) The image processing method of claim 49, wherein said calculating a representative facial image for each class comprises
averaging each facial image by registering the positions of both eyes according to several facial orientation image templates to account for differences in effective areas among said plurality of face classes.

51. (New) The image processing method of claim 49, wherein said calculating a representative facial image for each class comprises
calculating a correlative value for the representative facial image.

52. (New) The image processing method of claim 51, further comprising

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classifying the representative facial image into one of said plurality of face classes, where
said one of said plurality of face classes includes facial images having the correlative value
above a predetermined threshold value.